

**D(2750)**

$$I(J^P) = \frac{1}{2}(??)$$

OMITTED FROM SUMMARY TABLE

NODE=M203

**D(2750) MASS**

NODE=M203M

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
<b>2761 ±5 OUR AVERAGE</b>					Error includes scale factor of 2.5. See the ideogram below.
2752.4±1.7±2.7	23.5k	<sup>1</sup> DEL-AMO-SA...10P	BABR	0	$e^+e^- \rightarrow D^{*+}\pi^- X$
2763.3±2.3±2.3	11.3k	<sup>1</sup> DEL-AMO-SA...10P	BABR	0	$e^+e^- \rightarrow D^+\pi^- X$
2769.7±3.8±1.5	5.7k	<sup>1,2</sup> DEL-AMO-SA...10P	BABR	+	$e^+e^- \rightarrow D^0\pi^+ X$

NODE=M203M

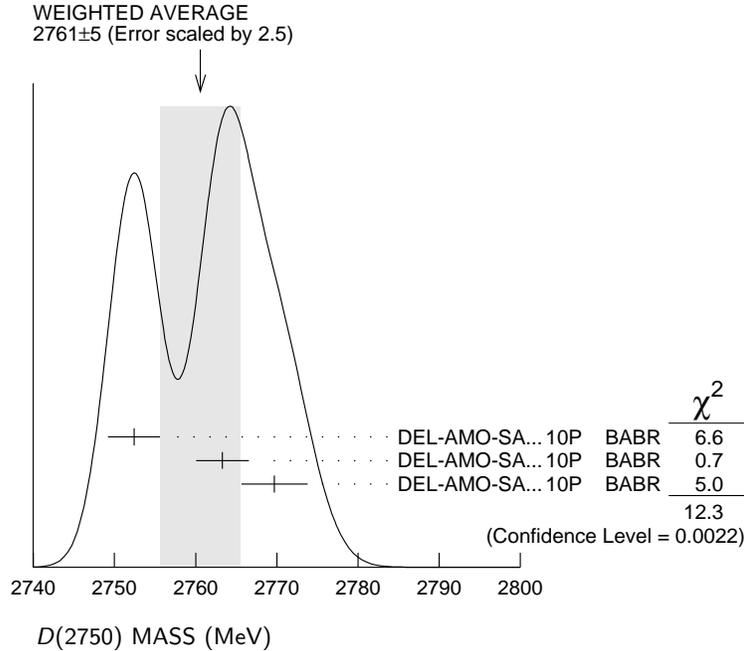
OCCUR=2

OCCUR=3

<sup>1</sup>The states observed in the  $D^*\pi$  and  $D\pi$  final states are not necessarily the same.<sup>2</sup>At a fixed width of 60.9 MeV.

NODE=M203M;LINKAGE=DE

NODE=M203M;LINKAGE=DA

**D(2750) WIDTH**

NODE=M203W

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>63 ±6 OUR AVERAGE</b>				
71 ±6 ±11	23.5k	<sup>3</sup> DEL-AMO-SA...10P	BABR	$e^+e^- \rightarrow D^{*+}\pi^- X$
60.9±5.1± 3.6	11.3k	<sup>3</sup> DEL-AMO-SA...10P	BABR	$e^+e^- \rightarrow D^+\pi^- X$

NODE=M203W

OCCUR=2

<sup>3</sup>The states observed in the  $D^*\pi$  and  $D\pi$  final states are not necessarily the same.

NODE=M203W;LINKAGE=DE

**D(2750) DECAY MODES**

NODE=M203215;NODE=M203

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $D\pi$	seen
$\Gamma_2$ $D^+\pi^-$	seen
$\Gamma_3$ $D^0\pi^\pm$	seen
$\Gamma_4$ $D^*\pi$	seen
$\Gamma_5$ $D^{*+}\pi^-$	seen

DESIG=1;OUR EVAL;→ UNCHECKED ←

DESIG=2;OUR EVAL;→ UNCHECKED ←

DESIG=3;OUR EVAL;→ UNCHECKED ←

DESIG=4;OUR EVAL;→ UNCHECKED ←

DESIG=5;OUR EVAL;→ UNCHECKED ←

**D(2750) BRANCHING RATIOS**

NODE=M203220

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	$\Gamma_2/\Gamma_5$
<b>0.42±0.05±0.11</b>	34.8k	<sup>4</sup> DEL-AMO-SA...10P	BABR	$e^+e^- \rightarrow D^{(*)+}\pi^- X$	

NODE=M203R01

NODE=M203R01

<sup>4</sup>The states observed in the  $D^*\pi$  and  $D\pi$  final states are not necessarily the same.

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### **$D(2750)$ POLARIZATION AMPLITUDE $A_D$**

A polarization amplitude  $A_D$  is a parameter that depends on the initial polarization of the  $D(2750)$ . For  $D(2750)$  decays the helicity angle,  $\theta_H$ , distribution varies like  $1 + A_D \cos(\theta_H)$ , where  $\theta_H$  is the angle in the  $D^*$  rest frame between the two pions emitted by the  $D(2750) \rightarrow D^*\pi$  and  $D^* \rightarrow D\pi$ .

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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• • • We do not use the following data for averages, fits, limits, etc. • • •

$-0.33 \pm 0.28$	23.5k	<sup>5</sup> DEL-AMO-SA...10P	BABR	$e^+e^- \rightarrow D^{*+}\pi^- X$
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<sup>5</sup>Systematic uncertainties not estimated. The states observed in the  $D^*\pi$  and  $D\pi$  final states are not necessarily the same.

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### **$D(2750)$ REFERENCES**

DEL-AMO-SA...10P	PR D82 111101	P. del Amo Sanchez <i>et al.</i>	(BABAR Collab.)
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NODE=M203R01;LINKAGE=DE

NODE=M203PAM

NODE=M203PAM

NODE=M203PAM

NODE=M203PAM;LINKAGE=DE

NODE=M203

REFID=53534